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SUMMARY

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POSSIBILITIES FOR USING PLYWOOD IN STRUCTURAL UNITS AND ON BUILDING SURFACES

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POSSIBILITIES OF USING PLYWOOD IN STRUCTURAL UNITS AND ON BUILDING SURFACES

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Although in the last 50 years or more plywood has become a conventional material, its use in European building carcassing as opposed to American and Canadian practice is unknown.

The barriers against its development in this sphere, tradition and the existence of almost no buildings other than masonry ones, hardly exist in the development countries.

Easy to build, using little plant and labour or energy, plywood is specially useful for the speedy and cheap building of houses, industrial or farm buildings in expanding settlements.

It can be used for all three of the units of the building carcase: the frame, the outside walls and the roof, not to mention the interior.

It is particularly suitable for prefabrication or mass production.

In spite of this, not all plywood can be used for building. It should consist of strong durable timbers, glued so as to stand up to rigorous climate conditions, and must be quality-controlled.

In structural units, plywood can be used for linking pieces together by gussets or side plates etc., or for making the webs of I-section or box girders. Plywood in carpentry should be strong enough to resist known stresses, and should be at least five-ply, the individual thicknesses of the plies being within certain tolerances.

It is possible to imagine self-supporting floors or roofs or external walls made of box-beam structures which allow the frame to be reduced or dispensed with.

In walls and external facing units, plywood can be single- or double-faced, with thermal insulation, vapour barrier, and a ventilated cavity. The outer facing is generally 10 mm plywood, the inside facing 5 to 7 mm.

No plywood covering unit should be in direct contact with the ground. Units exposed to water or damp should be treated with rot-protective.

The watertightness of joints is ensured by solid timber assemblies. The outer surface can be painted or given an "outside" varnishing after treatment against dry rot, and impregnation with insecticide.

The roof can consist of sheets of 7 to 8 mm plywood nailed to ordinary rafters, flush-jointed, and covered with a waterproofing layer. Self-supporting plywood decking with a metal or plastic surface can also be used, and needs neither rafters nor watertight covering. However, in roofing plywood has hitherto been little used because its cost, supplied and fixed, is higher than that of some other economic materials, because of the lack of experience of contractors, and the absence of appropriate metal fittings.

In conclusion, plywood is the most quickly utilized building material, the strongest, and the most sturdy. It satisfies immediately the urgent needs of housing and agricultural or industrial buildings. Plywood buildings can be quickly built, transformed, extended or moved.

The world market is widely supplied with plywood of construction quality. Production lines for prefabricated plywood building units can easily be set up at building sites. Later on, plywood manufacture can make the best possible use of good forest timbers.

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